

Project Profile - Coastal Structures

PROJECT

Aust Jetty, Avon

SUMMARY

Concrete repairs, anti-carbonation protection, levelling and anti-slip deck protection

PRODUCTS

Steel Reinforcement Protector 841, Monomix HD, Monodex Smooth, Cemprotect Levelling Coat, Cemprotect EF Grit

CLIENT

UK Power Networks

CONTRACTOR

Trant Construction (Main Contractor)
QST (Application Contractor)

BACKGROUND ►

Extensive repairs were required to an electricity pylon jetty in the River Severn. Built in the 1960's, the trestle type reinforced concrete jetty supports and gives service access to an electricity pylon downstream of the Severn Bridge at Aust. The pylon is one of two electricity pylons which span the Severn Estuary and are taller than a 53-storey block, making them the second highest in the UK.

Extensive concrete repairs were required to the legs of the jetty, plus the main platform. This was a challenging project in a testing environment, as large sections of the plinths are submerged for large periods of time, meaning that only a limited timeframe was available to place concrete repair materials and allow them to set. It was also important that once in place, the materials were not adversely affected by immersion. Anti-carbonation protection was required on the top section of the jetty, plus levelling and anti-slip deck protection was needed on the main platform to allow maintenance work to be carried out safely.

THE SOLUTION ►

This was a complex project and Flexcrete products were chosen as we could supply a full package of products for concrete repair, anti-carbonation, levelling and anti-slip deck protection. Once the defective concrete was cut out on the legs of the jetty, **Steel Reinforcement Protector 841** was applied to the steel reinforcement prior to the application of **Monomix HD**. **Monomix HD** is a high strength, waterproof, class R4 structural repair mortar which has outstanding abrasion resistance. It is easily trowellable, has excellent low sag properties and can be applied up to thicknesses of 80mm in a single application. The high bond strength of **Monomix HD** exceeds the tensile strength of concrete and its dense matrix offers low permeability to water, even at 10 bar pressure, and very high diffusion resistance to acid gases and chloride ions. Non-toxic when cured, the product is supplied as a single component system ready for on-site mixing and use, requiring only the addition of clean water.

Monodex Smooth coating was specified for application to the top section of the jetty to provide effective anti-carbonation protection. With high diffusion resistance to carbon dioxide, it offers complete protection from the effects of carbonation. **Cemprotect Levelling Coat** - a two component, epoxy and polymer modified waterborne cementitious levelling screed - was then used to level the jetty platform. One of the key features of **Cemprotect Levelling Coat** is that it is exceptionally rapid curing and develops high early strength, enabling early trafficking and rapid reintroduction of facilities into service. **Cemprotect EF Grit** was cast into the **Cemprotect Levelling Coat** to provide anti-slip protection, so that operatives carrying out maintenance are not at risk of slipping in the hazardous conditions.



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